Comments for ACC March 5 Workshop on EPS Changes
Provided by the Solar Thermal Power Division of the
Solar Energy Industries Association (SEIA)

1. **A discussion of increasing Environmental Portfolio Standard ("EPS") funding levels**.

The current Arizona EPS starts at 0.2% in 2001 and increases incrementally until 2007 when it reaches 1.1%. We estimate this to be an equivalent base-load capacity of about 68 MW of renewable power by 2012. In addition, the EPS calls for 50% contribution from solar electricity through 2003 increasing to 60% for the remainder of the period.

When first established, Arizona's EPS was the first such standard in the United States and it "set the bar" among the states for how to encourage diversity of power generation and develop renewable technologies. However, the total amount of the renewable set aside is very low and does not accommodate the aggregation of 50 to 100 MW blocks of power that can result in the lowest cost of energy from technologies such as geothermal, biomass and concentrating solar power.

Arizona's solar resource is enormous; on the best solar lands alone (those with direct-normal solar radiation > 8 kWh/m^2/day) the potential solar-electric capacity is greater than 80,000 MW! The State should increase its EPS to develop this untapped resource. Furthermore, based on the magnitude of the resource, the development of the State's solar resources could become a significant engine for economic development and job creation.

We recommend that Arizona Corporation Commission consider increasing the EPS to 5% in 2010 and 10% in 2015, while retaining the 60% solar fraction. Provisions for generating the required funding levels should be adopted to support the increased EPS targets.

2. Elimination of the EPS expiration date

Please note our comments in regard to Topic 5 in which we recommend that Arizona transform its monthly surcharges from a capital accrual fund as currently devised into a monthly cash stream supporting higher energy output costs from renewable energy facilities. Such cash streams would need to be continued for a period of 10 years (or more) following plant start-up as determined by individual power purchase agreements. Under current EPS energy targets where the final increment of renewable energy is not mandated until 2012, the program should thus continue until 2022. If EPS target changes are to be instituted as contemplated in the hearing topics, the program expiration should be extended for a minimum of 10 years beyond the final target year."

3. Restoration of Demand Side Management ("DSM") funding.

No comment.

4. **Allocation of funding among various technologies**.

Arizona has the highest total solar radiation of any of the southwest states and, in fact, it is one of the best solar areas in the world. Arizona was the first state to establish a portfolio

standard and the first to recognize a solar set aside within the standard. Like any other state resource, the solar resource must be developed. Department of Energy studies have shown that installation of as little as 1000 MW of solar power plants, primarily involving concentrating solar power, can result in major reductions in the cost of solar energy and serve as the basis for emergence of a significant solar energy industry in the sun-rich southwest. Arizona should position itself to be at the core of this new economic engine.

In establishing its EPS, Arizona made the correct choice in assigning emphasis to solar energy systems. The 60% solar requirement is in the economic interest of the State and should be retained.

5. **Whether or not Arizona can and should increase its commitment to renewable energy by increasing the surcharge and the portfolio percentage**.

The current EPS achieves cost recovery through accumulation of funds via a surcharge on each ratepayer's monthly bill. The funds collected may be used by each utility distribution company (UDC) to pay the capital cost of required renewable energy systems. Since UDCs are not required to deliver renewable electricity beyond that for which costs are reimbursed, EPS targets notwithstanding, the result is that current targets are not being met. Consequently, an increase in the financial commitment level is sorely needed.

However, the current resource allocation to capital purchases is inefficient. The funds simply substitute for what might otherwise be private sector investment. If the same resource stream was used to provide a premium toward the cost of electricity output from renewable plants and was continued for a minimum period of 10 years, adequate cash flow could be provided to renewable project developers and, with multi-year power purchase agreements in hand, private financing could be secured for project capital expenses. Investment funds would thus flow into Arizona and a significantly greater quantity of renewable energy would result from the same monthly charge.

The use of monthly EPS revenues to cover the additional per unit output costs of renewable energy facilities is common in other states and Arizona would be well served to examine these programs and convert its own program to a similar method.

6. **Review of the requirements for the phase-in of renewable technologies found in A.A.C. R14-2-1618 B. 3. Review whether the approach of static percentages is still justified and if so, whether those percentages should be reconfigured.**

There is nothing inherently inappropriate about "static" phase-in targets for meeting renewable energy portfolio standards. The gradual stepwise increase in delivered energy requirements allows reasonable utility planning and efficient industry response. However, flexibility must accompany the target phases.

To achieve lowest cost, many renewable energy systems must be installed in plant sizes that may not correspond to the year-to-year phase-in increments. For example, as mentioned above, some solar technologies require power plant sizes in excess of 50 MW to deliver lowest cost electricity. Thus it may be necessary to aggregate several phase steps to justify a plant investment and excess energy beyond the EPS requirement may be produced for a period of time. The EPS should establish a flexible credit system that allows excess energy to be applied to either past or future energy requirements. The EPS should also

permit temporary suspension of energy mandates if contractual arrangements are in place for a future plant whose excess output will ultimately satisfy the suspended quantity of energy.

7. **Consideration of inclusion of new and emerging technologies as part of the review of the appropriate resource mix.**

Precise comment depends on the definition of “new and emerging.” Lack of decades long operating experience should not alone be a disqualifying factor. As with most states, the Arizona EPS places energy requirements on electricity suppliers. If a qualifying technology appears capable of delivering required energy output, has prior private sector investment, has future investors for a proposed project, and meets all procurement criteria, its selection should merit consideration. At the same time, the EPS should not devolve into an R&D program. Arizona may want to consider criteria that define “deployable technologies.”